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ABSTRACT

A study was conducted at Dabney S. Lancaster Community College (DSLCC) to examine the relationships between reading achievement, academic major, selected personality variables, grade point average (GPA), and scores on the College Guidance and Placement Test (CGPT). The Iowa Silent Reading Test, the Survey of Study Habits and Attitudes, and the California Personality Inventory were administered to 172 students enrolled in all of the English classes offered at DSLCC during spring 1980. The study revealed the following: (1) reading test scores were not significantly related to GPA; (2) GPA correlated significantly with CGP scores and the personality characteristics of self-acceptance, responsiblity, tolerance, achievement via independence, high intellectual efficiency, and femininity; (3) flexibility, self-control, CGP scores, and work delay avoidance were found to contribute significantly to GPA; (4) study skills inventory scores were not significantly related to GPA; and (5) femininity and achievement via independence were significantly related to a GPA above 3.0. The study report includes recommendations for further study, statistical data tables, and a bibliography. (KL)

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An Analysis of the Relationships of Academic Success and Selected Achievement/Attitude Tests

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Introduction

It has become increasingly important that community colleges continually search for improved methods of instructing a diversified student population. In addition, the need for guidance and counseling has become increasingly necessary because of these differing student backgrounds, many course options and academic majors. Studies (Cope and Hannah, 1975; Astin, 1975: and others) have indicated that most colleges know very little about their students in terms of achievements, withdrawals, and graduation rates. Therefore, it is especially important that research be directed toward providing this information in order to investigate the predispositions for high/low achievements, graduate/non-graduate status, etcs.

In addition, quantifiable student characteristics should be examined as a necessary but not sufficient condition for successful college experiences in the various programs. The results of these analyses will provide insights which can be combined with qualitative evaluations necessary to discern the complex dynamics of student academic success. Because the success of a college is most certainly reflected in the success of its students in their academic programs, major efforts should be directed toward identifying and understanding factors that affect this success.

Purpose of the Study

The purpose of the study was to examine the relationships between (1) reading achievements; (2) academic majors; (3) selected personality variables; and (4) grade point average (GPA) at Lancaster Community College, Clifton Forge, Virginia. The specific questions addressed were:

1. Is there a different reading level of students with a GPA of less than 2.00, eith a GPA from 2.00 to 3.00, and with a GPA greater than 3.00?

2. What personality characteristics are peculiar to each GPA grade range?

3. What study skills and study attitudes are indicative of students in each of the grade ranges? Are the average scores statistically different between each GPA grade range?

4. Are the average College Guidance and Placement Test (CGP) scores statistically different for each GPA grade range?

5. Is there a relationship between GPA and either reading level, study skills, study attitudes, personality characteristics or the CGP? Can multivariate statistics identify these relationships?

Procedures of the Study

This study was conducted by administering several tests to 172 students enrolled in all of the English classes at DSLCC during spring quarter, 1980. The English classes ranged from freshman developmental English to sophomore level American literature. The students ages ranged from high school to middle age adults.

The students completed (1) Iowa Silent Reading Test, consisting of vocabulary and comprehension questions; (2) Survey of Study Habits and Attitudes; and (3) The California Personality Inventory. The CGP score for each student was found in their admissions file.

The procedures of the study consisted of an analysis of data in terms of descriptive and multivariate statistics. The design of the study utilized John Tukey's dictum to "seek for scope and usefulness rather than security". Therefore, the authors were willing to experiment in order to develop methods that would establish relationships between student characteristics/aptitudes/attitudes and academic success.

Results of the Study

1. Reading scores on the Iowa Silent Reading Test indicated no differences between the GPA grade ranges.

2. Student's with GPA's above 3.00 had significantly stronger (.10 level) personality characteristics of achievement via independence and femininity.

3. The results of the Survey of Study Habits and Attitudes did not indicate an appreciable difference between students with GPA's below 2.00 and those above 3.00. However, the subtest "delay avoidance" did contribute significantly in predicting GPA.

4. Statistically significant differences were found between the mean CGP scores for grade range groups below 2.00 and those above 3.00. Students achieving below 2.00 GPA attained significantly lower scores on the CGP than students attaining GPA above 2.00.

Summary, Conclusions, Recommendations

1. The students were grouped into three categories by GPA: GPA below 2.00, GPA between 2.00 and 3.00, and GPA above 3.00. The various scores were then averaged so there is an average score for each subscore to reflect each GPA category. This grouping indicated a statistically significant difference in CGP scores between the three groups. (Table 3)

This information indicates that the CGP scores do predict students who will probably achieve below a 2.00 GPA. The average CGP scores for these students was 37. An exact cut off score for those students who can be reliably predicted to achieve below a 2.00 can be computed.

2. GPA correlates statistically significantly with CGP scores and the personality characteristics of self-acceptance, responsibility, tolerance, achievement via independence, high intellectual efficiency and femininity. (Table 1)

Since these factors were highly correlated it became important to weigh each of the factors in order to further pinpoint the variability of GPA. In addition, this information indicated that further data should be collected to establish a correlation between these various factors and the many different curricula available at DSLCC.

3. The use of a prediction formula (multiple regression) to determine the factors which contributed significantly to GPA indicated four variables. These variants are flexibility, self-control, CGP scores, and work delay avoidance. (Table 2)

Although the results of this formula were interesting and informative, the R square had a low value. This would again indicate that the data would be more valuable if it was computed for each curriculum.

4. When the study skills inventory scores were grouped into GPA categories there were no statistically significant differences between study skills in the three groups.

5. A correlation between GPA and personality characteristics indicated the presence of two characteristics in the above 3.00 GPA range. These factors are achievement via independence and femininity.

This positive correlation indicates that those students who wish to do well by working independently on their subjects achieve the higher GPA's. Additionally, those students whose personality characteristics fall into the "femininity" category generally achieve a higher GPA. The California Personality Inventory uses this category to depict someone who is "appreciative, patient, helpful, gentle, moderate, persevering, and sincere: as being respectful and accepting of others: and as behaving in a conscientious and sympathetic way."

This research showed a positive correlation between these two personality facets and GPA. However, a cross validation study which tested another 174 students would further substantiate this correlation.

Recommendations for further studies were cited as follows:

1. Cross-validation studies should be investigated. These studies would substantiate the data found in this project with another group of students.

2. Qualitative variables such as counselor and/or faculty estimation of GPA and probabilities of graduation should be discerned.

3. Similar studies by curricula should be investigated.

In summary, the study identified the complexity of examining and explaining student achievement. Additional studies must be directed to this topic in order to insure that continued efforts are made to provide the best educational opportunity for all citizens of the College.

Table 1: GPA and SSHA, CPI, ISRT

		GPA
CGP		.210
SSHA	SX - study orientation	.072
	DA - delay avoidance	.096
	WM - work methods	.083
	SH - study habits	.093
	TA - teacher approval	.048
	EA - education acceptance	.062
	SA - study attitudes	.053
CPI	DX - dominance	.083
	CS - capacity for status	.120
	SY - sociability	.076
	SP - social presence	.042
	ST - self-acceptance	.108*
	WB - sense of well-being	.020
	RE - responsibility	.138**
	SZ - socialization	.087
	SC - self-control	.021
	TX - tolerance	.107*
	GI - good impression	.008
	CM - communability	.058
	AC - achievement via conformance	.060
	AI - achievement via independence	.0165**
	LX - intellectual efficiency	.108*
	PY - psychological-mindedness	.098
	FX - flexibility	.055
	FE - femininity	.131**
ISRT	Reading level	.072
	Vocabulary level	.062
	Comprehension level	.062

*Significant at .10 level

**Significant at .05 level

Table 2: Stepwise Multiple Regression

DEPENDENT VARIABLE. . GPA

VARIABLE(S) ENTERED ON STEP NUMBER 5. . SC

MULTIPLE R	0.43128
R SQUARE	0.18601
ADJUSTED R SQUARE	0.16088
STANDARD ERROR	0.73304

VARIABLES IN THE EQUATION

VARIABLE	B	BETA	STD
FX	0.2966359D-01	0.31335	
CGP	0.6650922D-02	0.14633	
DA	0.8840087D-02	0.14523	
SC	-0.1328211D-01	-0.18804	
(CONSTANT)	0.9403942		

Table 3: Number and Means of Achievement/Aptitude/Attitude Tests by GPA Ranges

Achievement/Aptitude/ Attitude Test	Raw Score Mean-32 GPA below 2.0	Between 2.0 & 3.0	Above 3.0	Total Population
Iowa Silent Reading Test				
Reading level	51	57	55	55
Vocabulary level	29	32	30	30
Comprehension level	25	28	27	27
College Guidance and Placement Test**	37	47	44	44
California Psychological Inventory				
Dominance	21	21	23	22
Capacity for Status	13	13	15	14
Sociability	19	19	21	20
Social Presence	27	29	29	28
Self-Acceptance	16	18	19	19
Sense of Well-Being	28	26	29	27
Responsibility	21	21	24	22
Socialization	29	29	33	30
Self-Control	23	18	23	21
Tolerance	13	14	16	14
Good Impression	13	12	13	12
Community	21	21	23	22
Achievement Via Conformance	20	19	22	20
Achievement Via Independence*	13	13	16	14
Intellectual Efficiency	27	27	30	28
Psychological-mindedness	8	8	9	8
Flexibility	7	8	8	8
Femininity	18	17	21	19

*Significant at .10 level

**Significant at .05 level

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